

REMARKS

This is in response to the Office Action of January 9, 2009. With this amendment, claims 1, 4 and 9-10 are amended, claims 2-3 and 5 are canceled and all pending claims 1, 4 and 6-10 are presented for reconsideration and favorable action.

In the Office Action, claim 9 was rejected under 35 U.S.C. § 112. That claim has been amended and it is believed that the rejection may be withdrawn. Claims 1-9 were rejected under 35 U.S.C. § 103 based upon Harasawa et al. (US 5,615,290) in view of Chang et al. (US 6,111,673). It is believed that the pending claims are patentably distinct from these references.

Amended claim 1 recites “determining by a source node a transmission wavelength from a lookup table which is formed of the address serial number of each node and the transmission wavelength used between every two nodes, wherein when the number of nodes in the quantum network is odd, the total number of said transmission wavelengths is N; when the number of nodes in the quantum network is even, the total number of said transmission wavelengths is N-1; transmitting from the source node to a destination node an optical quantum state signal on the determined wavelength; and determining, by the destination node, the source of the received quantum state signal from a lookup table by using the transmission wavelength of the quantum state signal”. Neither Harasawa et al. or Chang et al. show this configuration. These references fail to teach determining transmission wavelength by using a lookup table maintained at each node, and the total number of transmission wavelength is equal to or less than the number of node.

For example, in case of three nodes, six wavelengths are adopted to implement the transmission of an optical signal among three nodes (see line 25, column 7 to line 36, column 8 and Fig. 8 of Harasawa et al.).

Additionally, neither Harasawa et al. or Chang et al. teach transmitting quantum state signals between the nodes. The quantum state signal cannot be read. Note that Chang et al. teaches reading the optical signals by using electronics (see line 17, column 17 to line 28, column 18 and Figs. 8, 9 and 10 of Chang et al.). It would be impossible for one skilled in the art to combine Harasawa et al. with Chang et al. in order to arrive at the claimed invention. Therefore, it is submitted that amended independent claim 1 is patentably distinct from the cited

references.

Amended independent claim 4 contains similar limitations and therefore it is patentably distinct from the cited references.

In view of the above amendments and remarks, it is believed that the present application is in condition for allowance. Consideration and favorable action are respectfully requested.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue, or comment, including the Office Action's characterizations of the art, does not signify agreement with or concession of that rejection, issue, or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment or cancellation of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment or cancellation. Applicant reserves the right to prosecute the rejection claims in further prosecution of this or related applications.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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